CONTENTS

No. 1, FEBRUARY 2004

JANET L. LEONARD & JOHN P. EDSTROM. Parallel processing in an identified neural circuit: the *Aplysia californica* gill-withdrawal response model system 1

MICHEL A. HOFMAN. The brain's calendar: neural mechanisms of seasonal timing 61

MONE ZAIDI, BALJIT S. MOONGA & CHRISTOPHER L.-H. HUANG. Calcium sensing and cell signalling processes in the local regulation of osteoclastic bone resorption 79

SHINICHI NAKAGAWA & JOSEPH R. WAAS. "O sibling, where art thou?" – a review of avian sibling recognition with respect to the mammalian literature 101

WILLIAM. G. EBERHARD. Male–female conflict and genitalia: failure to confirm predictions in insects and spiders 121

C. ROBIN HILEY & WILLIAM R. FORD. Cannabinoid pharmacology in the cardiovascular system: potential protective mechanisms through lipid signalling 187

KENNETH B. STOREY & JANET M. STOREY. Metabolic rate depression in animals: transcriptional and translational controls 207

No. 2, MAY 2004

GUSTAVO BARJA. Aging in vertebrates, and the effect of caloric restriction: a mitochondrial free radical production-DNA damage mechanism? 235

GEOFF A. BOXSHALL. The evolution of arthropod limbs 253

BRUCE R. MOORE. The evolution of learning 301

JONATHAN M. JESCHKE, MICHAEL KOPP & RALPH TOLLRIAN. Consumer-food systems: why type I functional responses are exclusive to filter feeders 337

E. A. WHITEMAN & I. M. CÔTÉ. Monogamy in marine fishes 351

JONATHAN COOKE. Developmental mechanisms and evolutionary origin of vertebrate left/right asymmetries 377

HELGA GUDERLEY. Metabolic responses to low temperature in fish muscle 409

J. MICHAEL BEDFORD. Enigmas of mammalian gamete form and function 429

J. R. BARNETT & VICTORIA A. BONHAM. Cellulose microfibril angle in the cell wall of wood fibres . . . 461

No. 3, AUGUST 2004

MARK BRUNDRETT. Diversity and classification of mycorrhizal associations 473

RICHARD T. CORLETT. Flower visitors and pollination in the Oriental (Indomalayan) Region 497

RALPH E. MISTLBERGER & DEBRA J. SKENE. Social influences on mammalian circadian rhythms: animal and human studies 533

ROBERT J. KNELL & K. MARY WEBBERLEY. Sexually transmitted diseases of insects: distribution, evolution, ecology and host behaviour 557

GREGORY F. GRETHER, GITA R. KOLLURU & KAREN NERSISSIAN. Individual colour patches as multicomponent signals 583

VIVIENNE M. BOWERS-MORROW, SINAN O. ALI & KEITH L. WILLIAMS. Comparison of molecular mechanisms mediating cell contact phenomena in model developmental systems: an exploration of universality . 611

F. I. Woodward & M. R. Lomas. Vegetation dynamics – simulating responses to climatic change . . . 643
Eric J. Warrant & N. Adam Locket. Vision in the deep sea 671

No. 4, NOVEMBER 2004

Stanley Meizel. The sperm, a neuron with a tail: 'neuronal' receptors in mammalian sperm 713
Alan A. Cohen. Female post-reproductive lifespan: a general mammalian trait 733
Andrew P. Jackson. Cophylogeny of the *Ficus* microcosm 751
Karen B. Helle. The granin family of uniquely acidic proteins of the diffuse neuroendocrine system: comparative and functional aspects 769
Edward H. Morrow. How the sperm lost its tail: the evolution of aflagellate sperm 795
Alexandre Roulin. The evolution, maintenance and adaptive function of genetic colour polymorphism in birds 815
Bruno A. Walther & Paul W. Ewald. Pathogen survival in the external environment and the evolution of virulence 849
Karl J. Niklas. Plant allometry: is there a grand unifying theory? 871
J. Michael Bedford, Orin B. Mock & Steven M. Goodman. Novelties of conception in insectivorous mammals (Lipotyphla), particularly shrews 891
Abraham Karpas. Human retroviruses in leukaemia and AIDS: reflections on their discovery, biology and epidemiology 911